



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/804,195

03/19/2004

Hirotooshi Terada

046124-5281

6516

55694

7590

09/18/2006

DRINKER BIDDLE & REATH (DC)

1500 K STREET, N.W.

SUITE 1100

WASHINGTON, DC 20005-1209

EXAMINER

PRITCHETT, JOSHUA L

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 09/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/804,195		TERADA ET AL.	
	Examiner		Art Unit	
	Joshua L. Pritchett		2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 1-3 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-9 and 17-19 is/are allowed.
- 6) ☒ Claim(s) 10-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/06, 8/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to Request for Continued Examination filed August 15, 2006 and Amendment filed June 21, 2006. Claim 10 has been amended as requested by the applicant.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichimura (US 2001/0021145) in view of Cozier (US 6,441,359).

Regarding claim 10, Ichimura teaches a position adjustment step of acquiring an image containing reflected light from a solid immersion lens (3) through an optical system to which light from a sample is incident (Fig. 6), and adjusting the position of the solid immersion lens relative to the optical system, with reference to the image (para. 0028) and an image acquisition step of acquiring an observation image of the sample enlarged by the solid immersion lens through the solid immersion lens and the optical system (Figs. 4 and 6). Ichimura lacks reference to the solid immersion lens reflecting light. Cozier teaches a the solid immersion lens reflecting light (Fig. 8; col. 6 lines 15-20). The lens taught by Cozier has substantially the same

shape and construction as the lens in Ichimura therefore the examiner believes the Ichimura solid immersion lens could also reflect light at the bottom interface. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the Ichimura solid immersion lens reflect light at the bottom interface for the purpose of reducing the area of the sample that receives illumination to allow the observer to concentrate on a more defined area.

Regarding claim 11, Ichimura teaches the center of gravity of a reflected light image is positioned on an optical axis of the optical system with reference to the image containing the reflected light from the solid immersion lens (Fig. 6).

Regarding claim 12, Ichimura teaches a distance adjustment step of adjusting a distance between the optical system and the sample (Fig. 4; slid motor 155).

Regarding claim 13, Ichimura teaches the solid immersion lens has a focal point at the center of the sphere (Fig. 1).

Regarding claims 14 and 15, Ichimura teaches the solid immersion lens has a radius, R , and a refractive index, n , has a focal point located at R/n below the center of the sphere (Fig. 1).

Regarding claim 16, Ichimura teaches the sample is a semiconductor device (51) and the solid immersion lens is placed in close contact with a surface of the semiconductor device (Fig. 1).

Allowable Subject Matter

Claims 4-9 and 17-19 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding claims 4, 7 and 17, the prior art fails to teach or suggest inserting a solid immersion lens from a standby position off an optical axis from the sample to the objective lens to an insertion position including the optical axis.

The prior art teaches solid immersion lenses movable within the optical axis and normal lenses movable into the optical axis. However, the examiner does not think one of ordinary skill in the art would find it obvious to combine these teachings because of the close contact between a solid immersion lens and a sample and the potential damage to the sample associated with moving the solid immersion lens into position.

The remaining claims depend from claims 4, 7 and 17.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments, see Amendment, filed June 21, 2006, with respect to the rejection(s) of claim(s) 10 under Ichimura have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Cozier. Applicant amended the claims to include

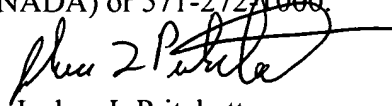
limitations not specifically taught by Ichimura. Cozier has been added to teach the newly claimed limitations.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L. Pritchett whose telephone number is 571-272-2318. The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Joshua L Pritchett
Examiner
Art Unit 2872